

**P692**

Population-Based Services  
&  
Single Case Design

# Before we start

[http://www.wired.com/magazine/2010/11/ff\\_bloodwork/2/](http://www.wired.com/magazine/2010/11/ff_bloodwork/2/)



# Population-Based Services

What

Why

Goals

Effective - Sustainable



# What are population-based school mental health services?

Services that have been carefully designed to meet the mental health needs of ***ALL*** students enrolled in a school

(Doll & Cummings, 2008; Chapter 1)



# Prevalence of mental disorders

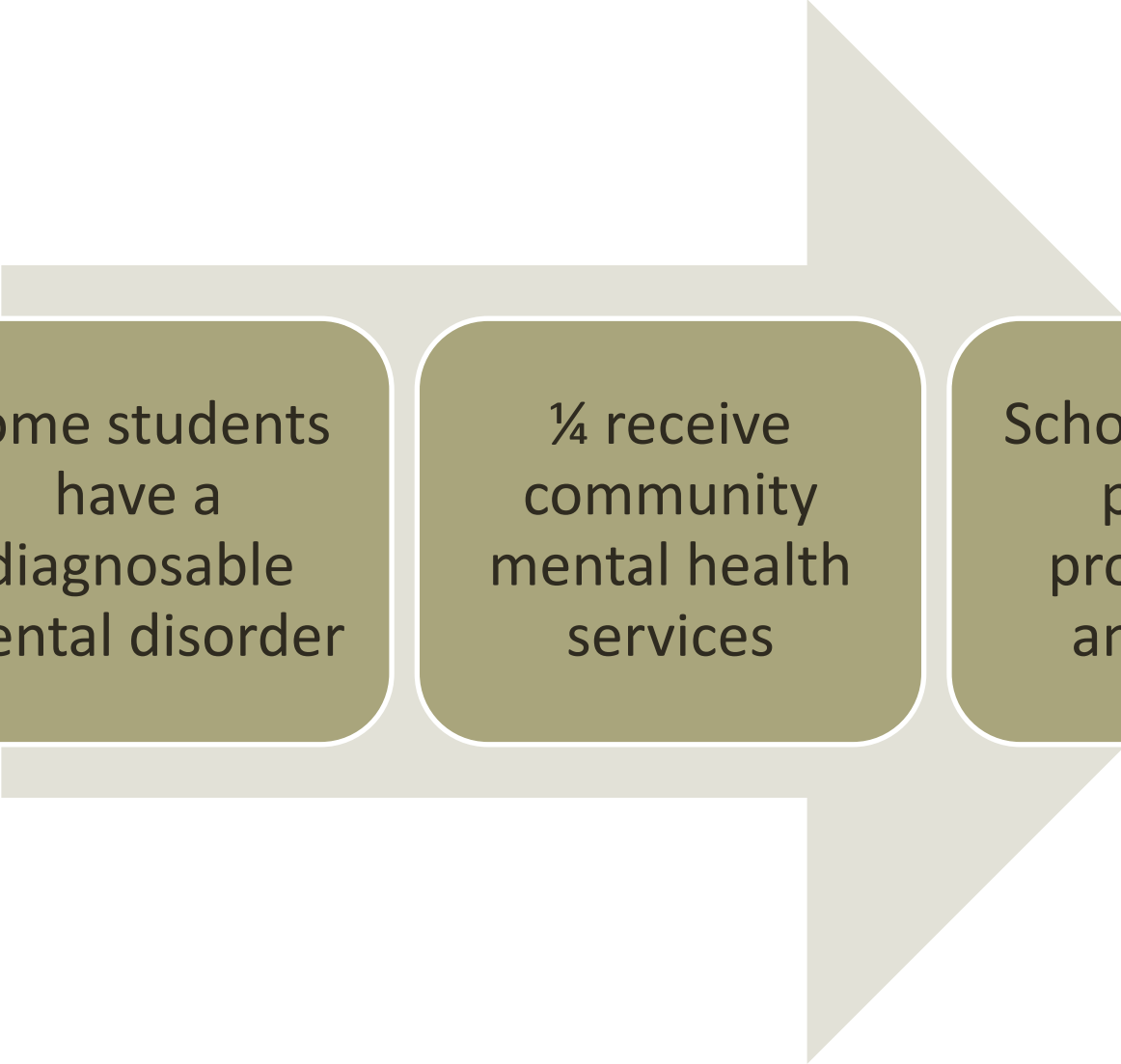
Disorder	Children	Adolescents
Anxiety Disorders	150	150
ADHD	74	54
Conduct Disorders	40	140
Depression	15	70
OCD	2-4	4
Autism, schizophrenia	13-15	13-15
All Mental Disorders	200	200



# Facts

- A portion of school-age students have a diagnosable mental disorder (one in ten, one in seven...)
- Only  $\frac{1}{4}$  of these students receive community mental health services
- Schools are the primary provider of mental health services for another  $\frac{1}{4}$
- Schools are an important protective factor for many students
- Students' school success is directly related to their psychological wellness

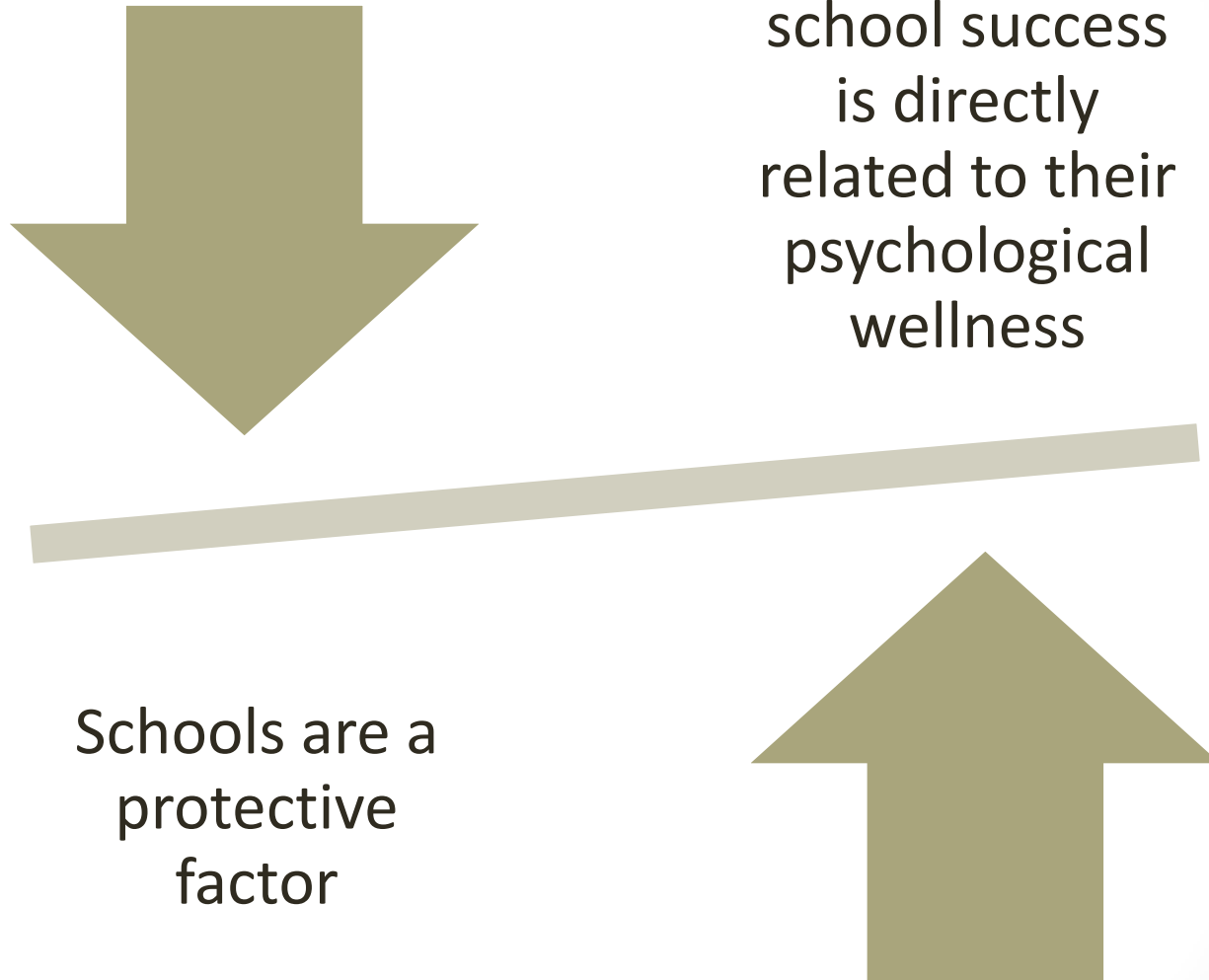
# Facts



Some students  
have a  
diagnosable  
mental disorder

$\frac{1}{4}$  receive  
community  
mental health  
services

Schools are the  
primary  
provider for  
another  $\frac{1}{4}$





# Smart Art

<http://office.microsoft.com/en-us/powerpoint-help/create-a-smartart-graphic-HA010354861.aspx>





# Facts

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# A roadmap to population-based school mental health

- Friendships
- Strengthen their personal efficacy
- Build students self-discipline
- Provide frequent and authentic opportunities for adult nurturing
- Engage students with prosocial organizations in the community
- Provide students with opportunities to pass it forward



School success

```
graph TD; A[School success] --> B[Personal Efficacy]; A --> C[self-discipline]; B --> D[Friendships]; B --> E[Belonging]; C --> F[adult nurturing];
```

A hierarchical flowchart with 'School success' at the top. It branches into 'Personal Efficacy' and 'self-discipline'. 'Personal Efficacy' further branches into 'Friendships' and 'Belonging'. 'self-discipline' branches into 'adult nurturing'. All boxes are yellow with rounded corners and a slight drop shadow.

Personal  
Efficacy

self-discipline

Friendships

Belonging

adult nurturing



# Goals of Population-Based Approach

1. Promote psychological health of **ALL** students
2. Promote caring environments that nurture students to develop skills to overcome challenges and risks

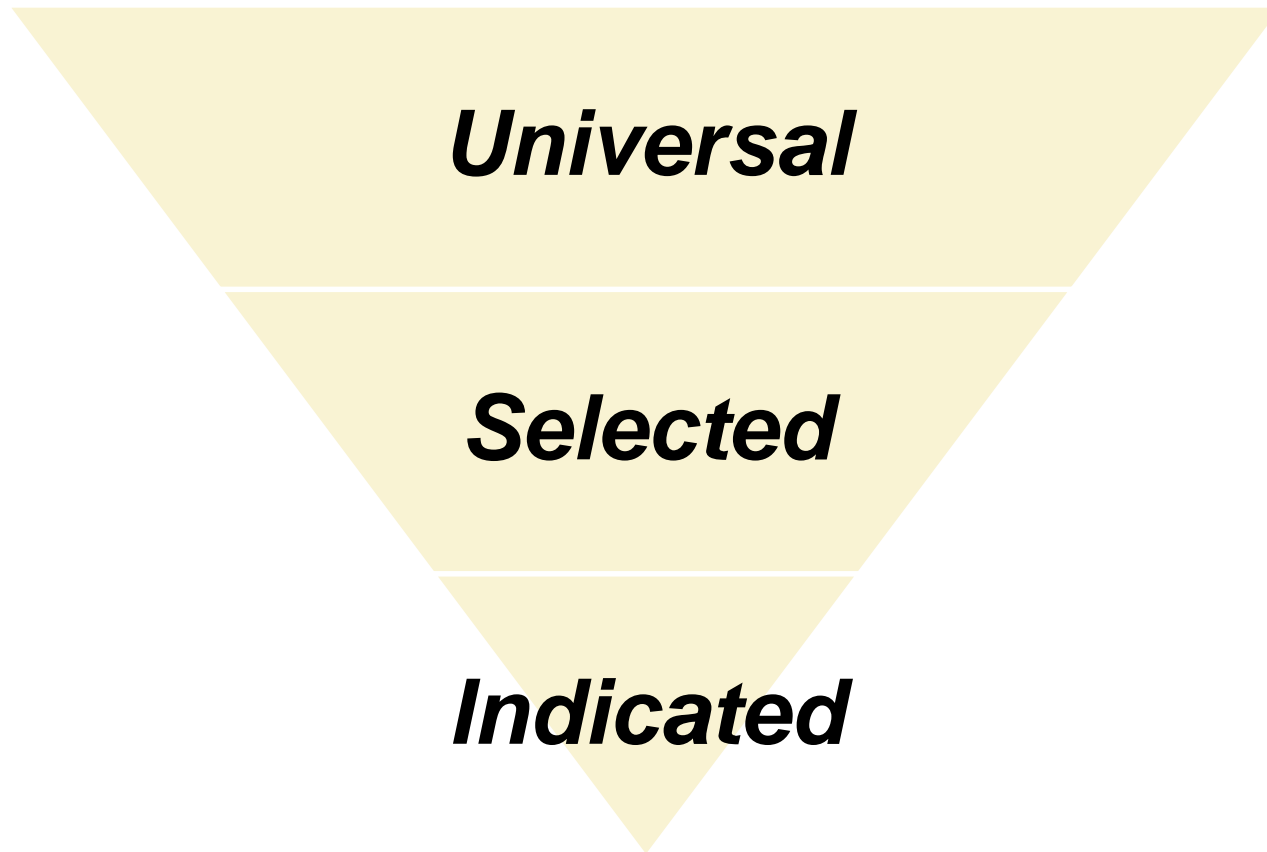


# Goals of Population-Based Approach

3. To provide protective supports to students at risk for developmental failure
4. To remediate academic, social, emotional and behavioral difficulties so children can develop competence



# Continuum of Interventions



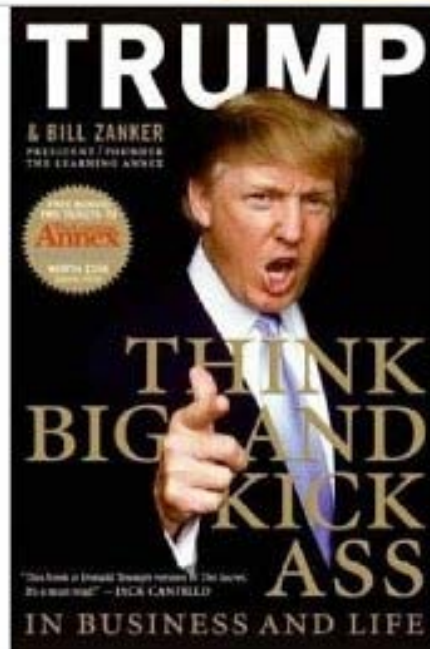




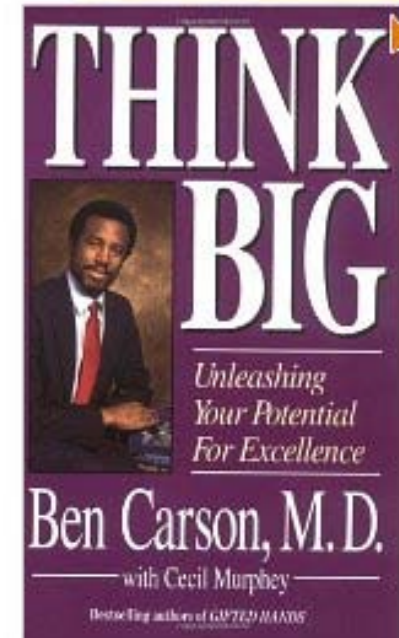
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# THINK BIG

Click to **LOOK INSIDE!**



Click to **LOOK INSIDE!**





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# Be Opportunistic

- Jan 17, CBS news
- [http://www.cbsnews.com/8301-504083\\_162-20028584-504083.html](http://www.cbsnews.com/8301-504083_162-20028584-504083.html)



# Resource Mapping - Asset-Focused

How are current resources allocated and used?





# Resource Mapping - Asset-Focused

How well are the  
various activities  
coordinated/integrated?





# Which activities need to be improved (or eliminated)?





What is missing?



What should be a priority?

<http://smhp.psych.ucla.edu/pdfdocs/resourcemapping/resourcemappingandmanagement.pdf>



# Model Programs to Investigate

UCLA Center for Mental Health in the Schools  
<http://smhp.psych.ucla.edu>

Collaborative for Academic, Social and Emotional Learning  
[www.casel.org](http://www.casel.org)

National Technical Assistance Center on Positive Behavioral Interventions and Supports (PBIS)  
[www.pbis.org](http://www.pbis.org)





# Transition to Wiki

- Wiki job aid:

<https://sites.google.com/site/p692wiki/editing-texts>

- Critique Interventions – update syllabus

<http://population-based-intervention.wikispaces.com/>



- A preplanned modification of the environment



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# The good old days ... '70's 80's





# Today

- Most common practice with interventions



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# Graph of common B intervention



# From this point forward

- Single case design
  - WHY???



# Threats to internal validity

*Ambiguous Temporal Precedence*

*Selection*

*History*

*Maturation*

*Testing*

*Instrumentation*

*Additive and Interactive Effects of Threats*



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# Baseline Logic – 4 steps

## Step 1 - Prediction







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# Baseline Logic – 4 steps

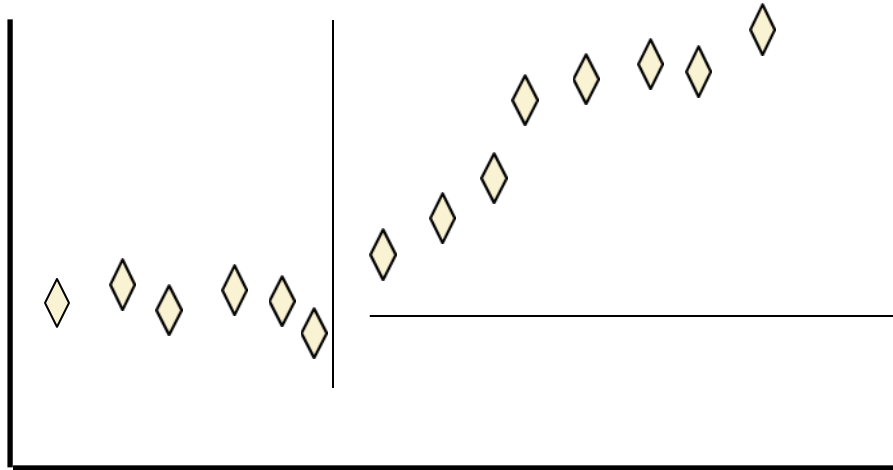
## Step 1 - Prediction





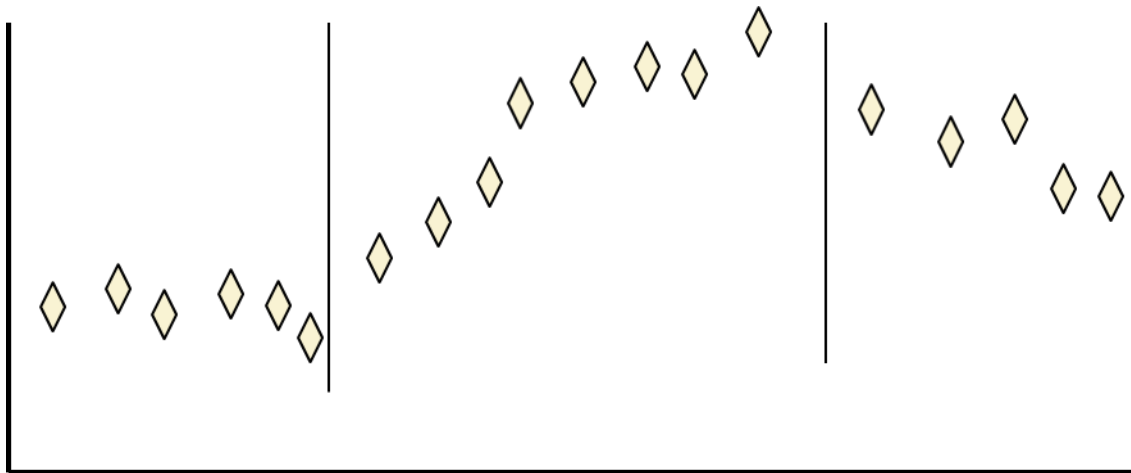
# Baseline Logic – Step 2

## Affirmation of the Consequent



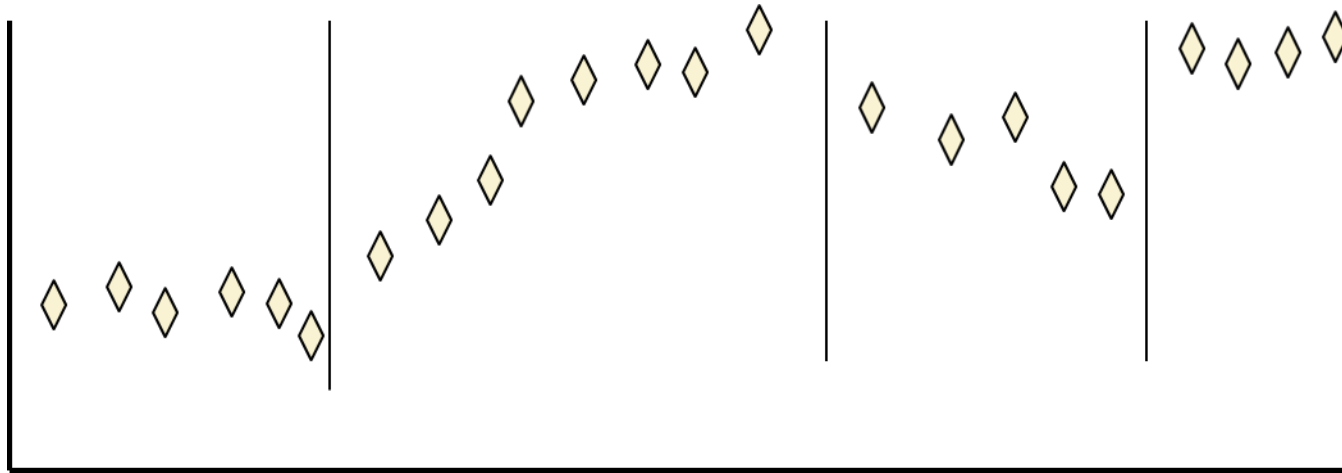


# Baseline Logic – Step 3 Verification





# Baseline Logic – Step 4 Replication by Affirmation of the Consequent





# Intervention

- Matches problem
- Evidence-based
- Implemented with integrity

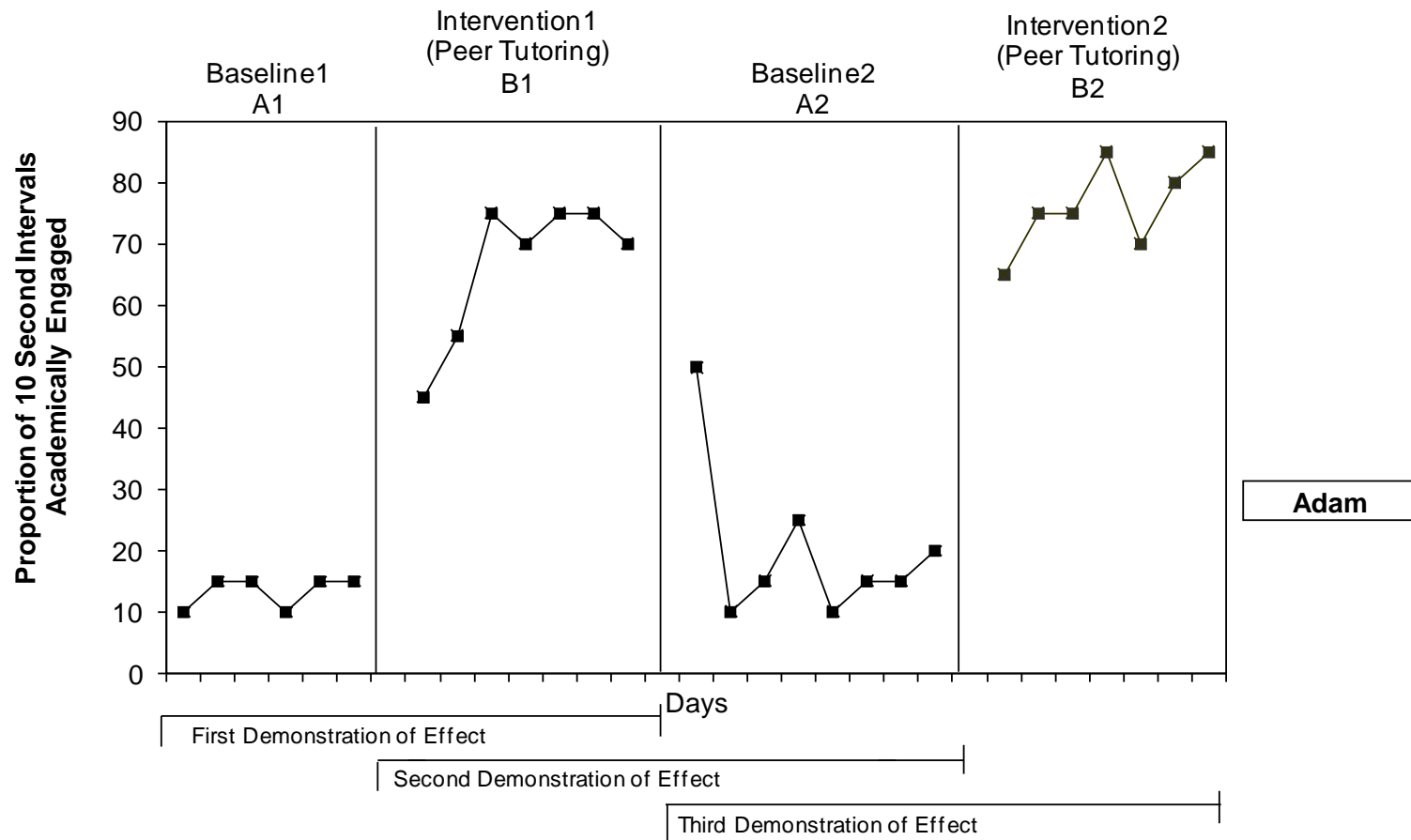


# Evidence Standards Criteria for Single-Case Designs

- Independent variable systematically manipulated
- Outcome variable measured systematically
- 3 attempts to demonstrate an intervention effect (replication)
- Phase should include a minimum of 5 data points



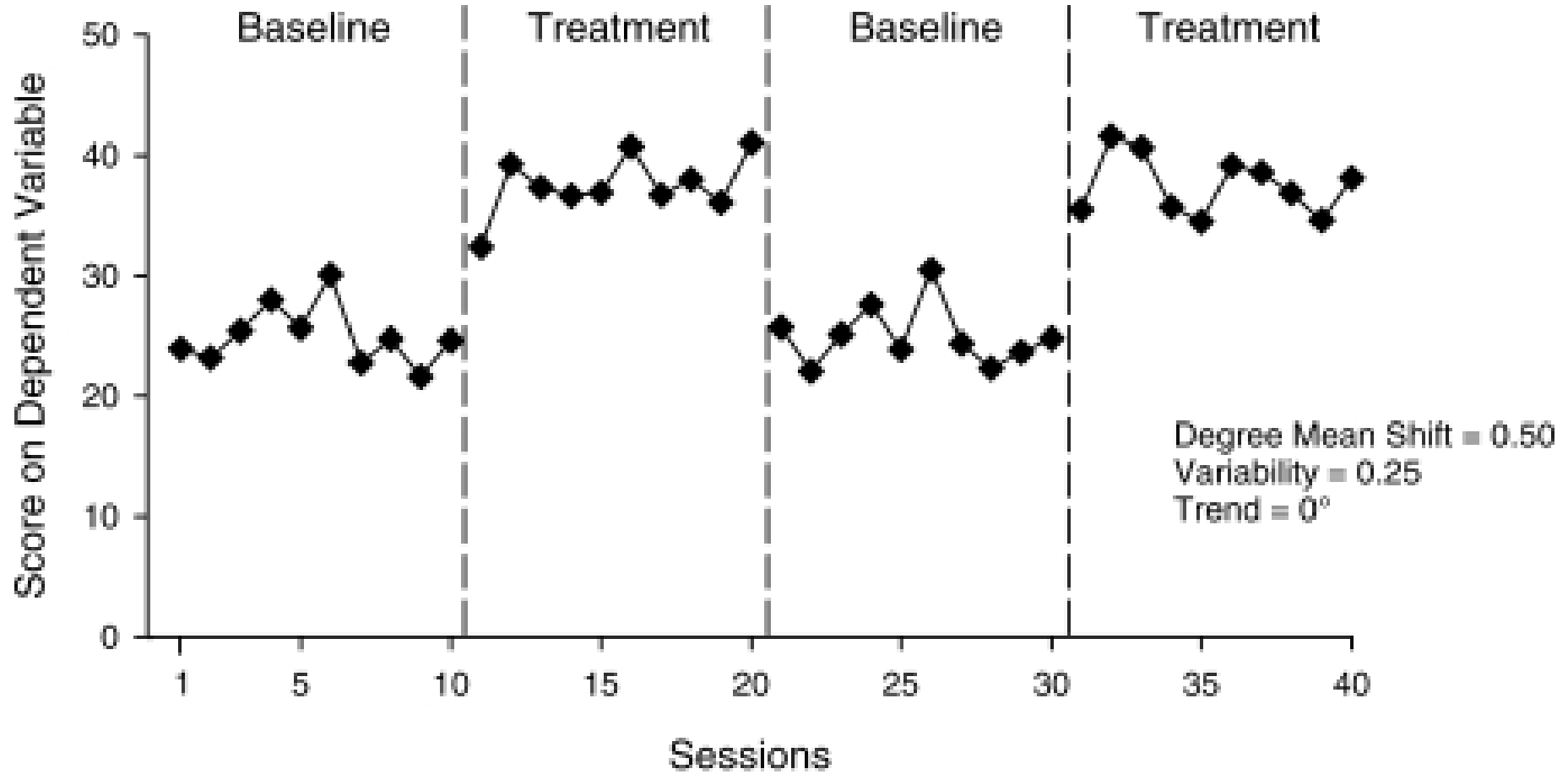
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Source: Horner &  
Spaulding, 2008

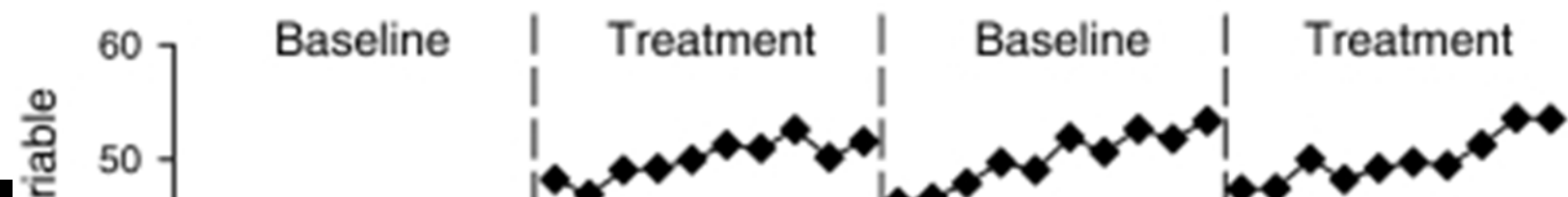
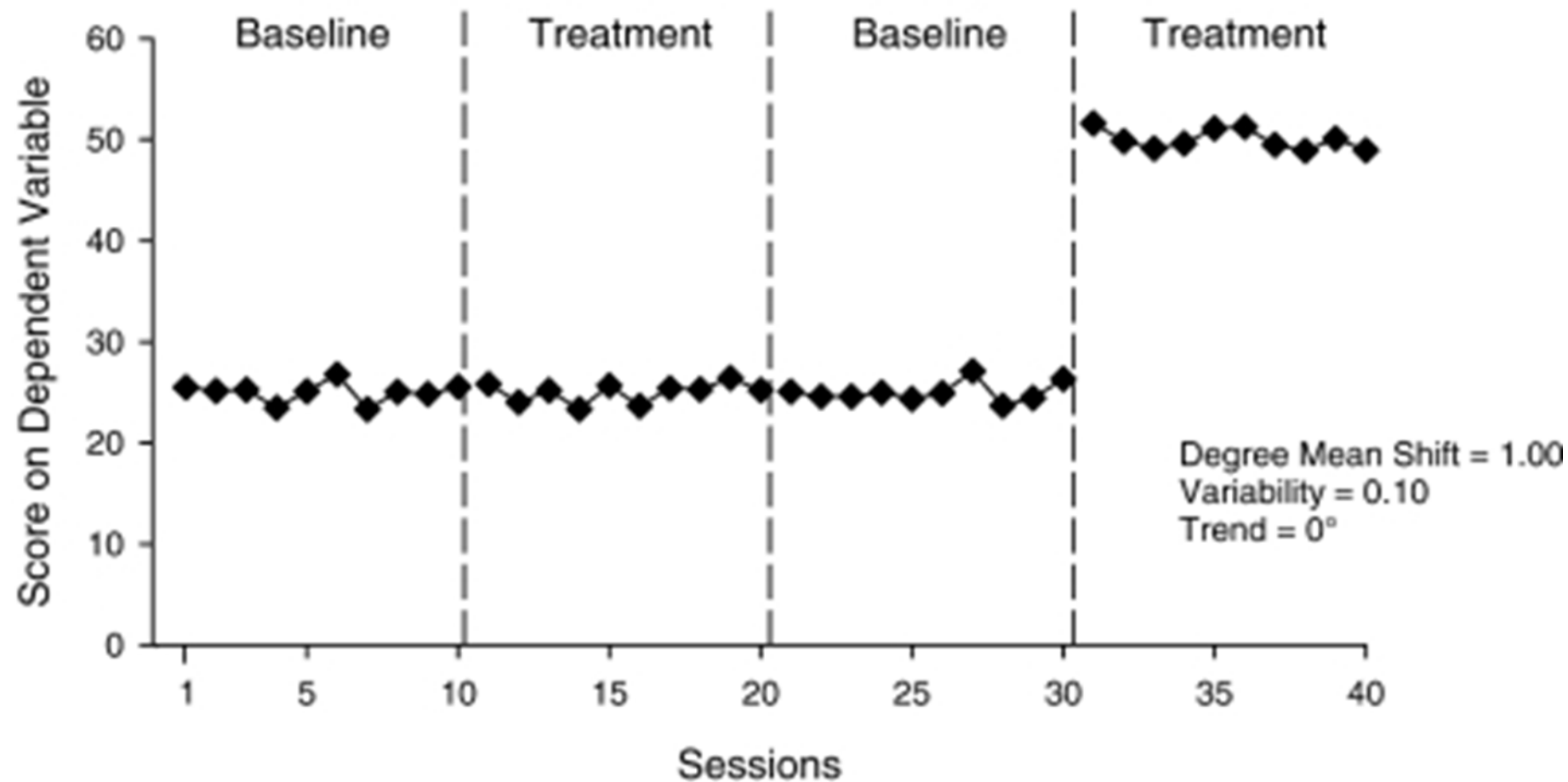
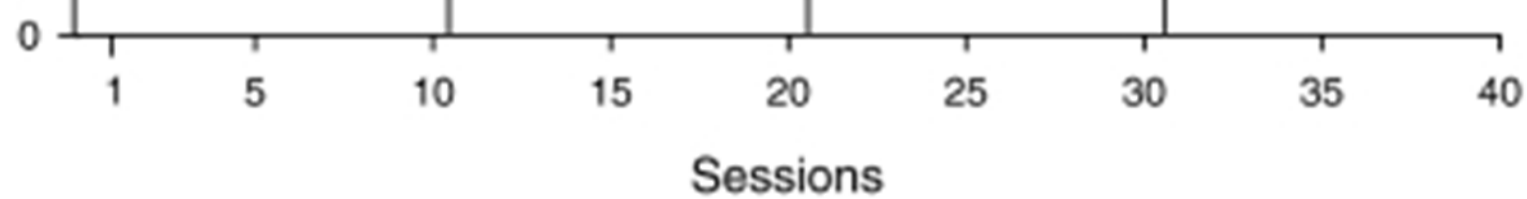


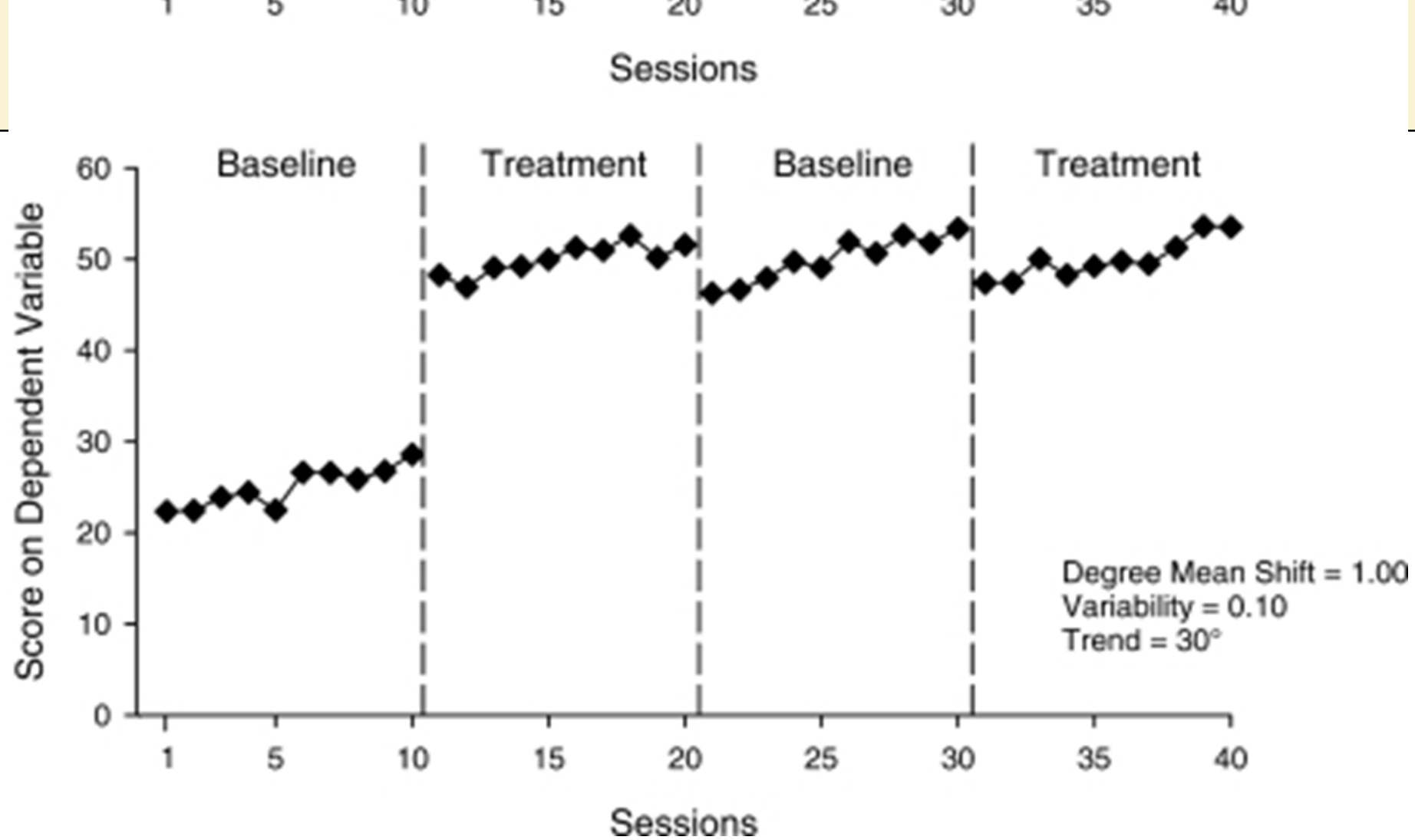
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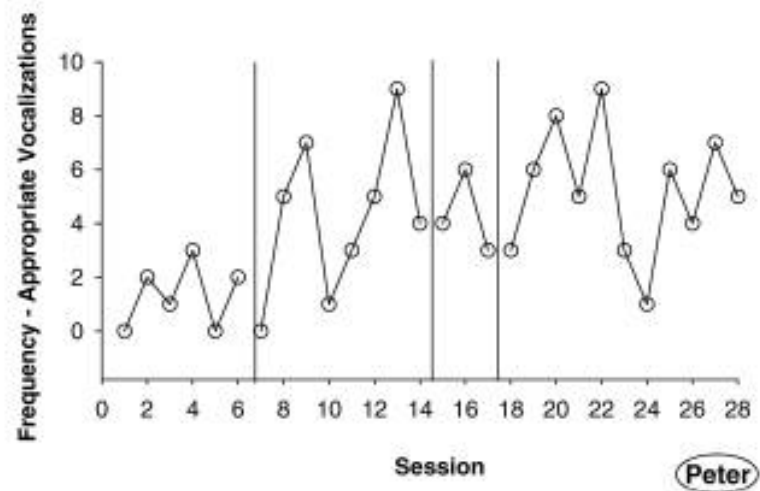
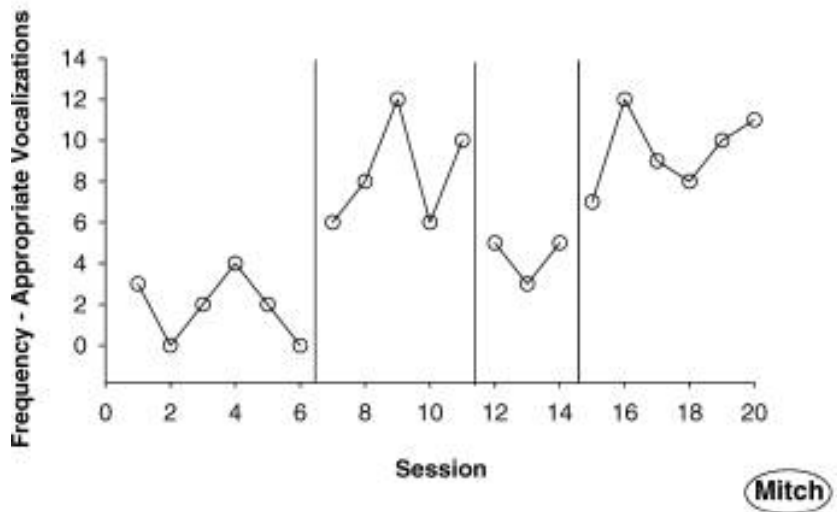
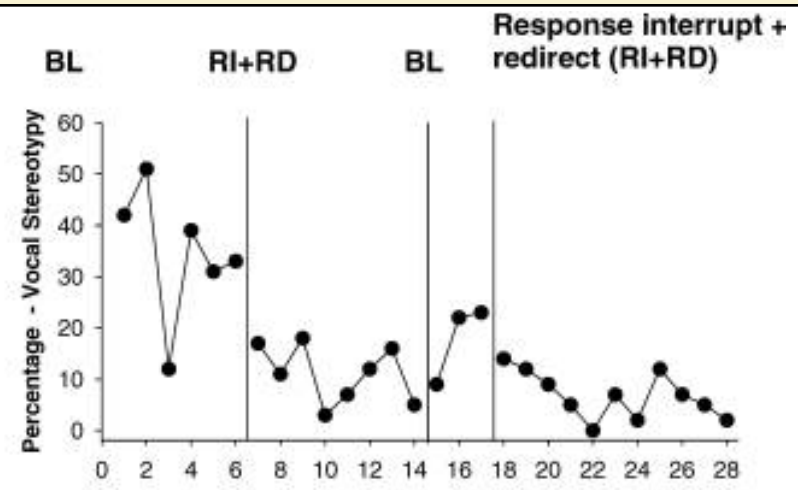
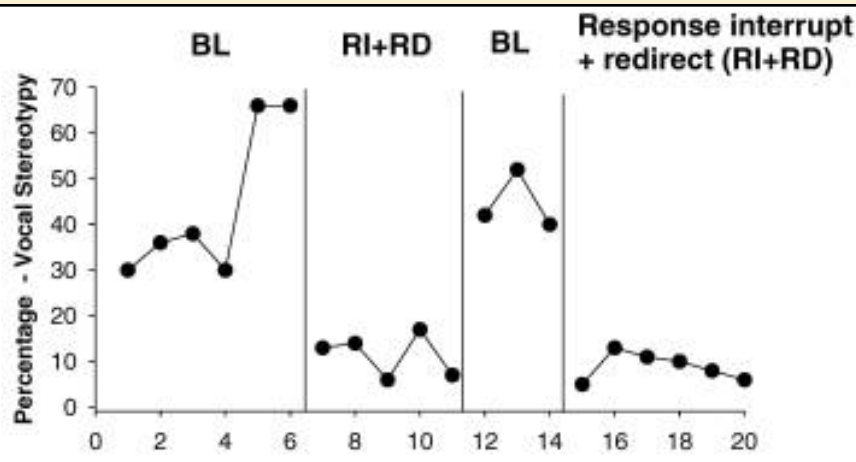


60 Baseline Treatment Baseline Treatment









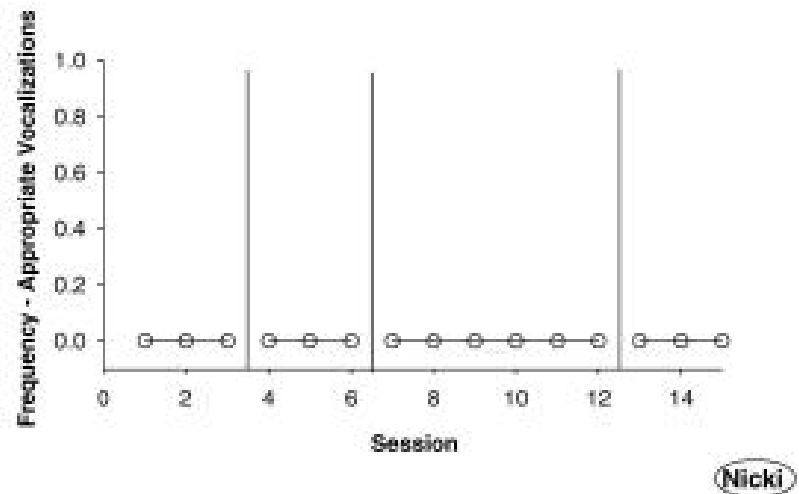
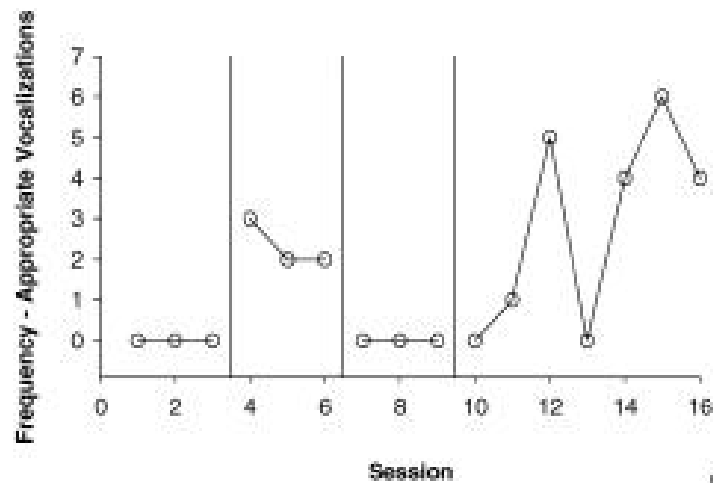
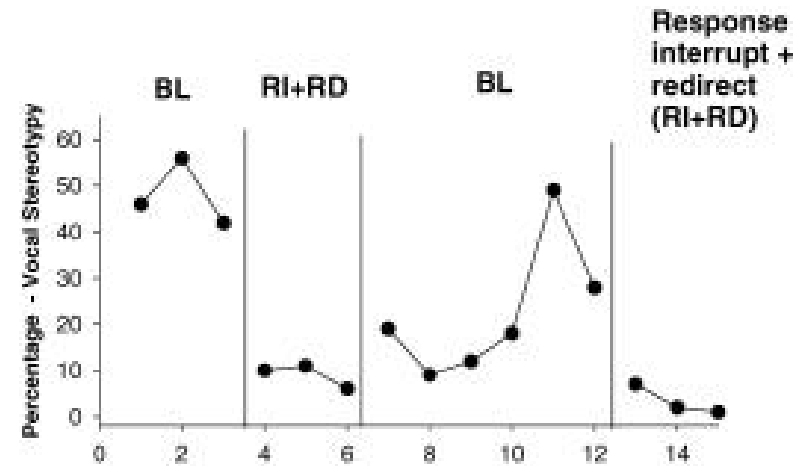
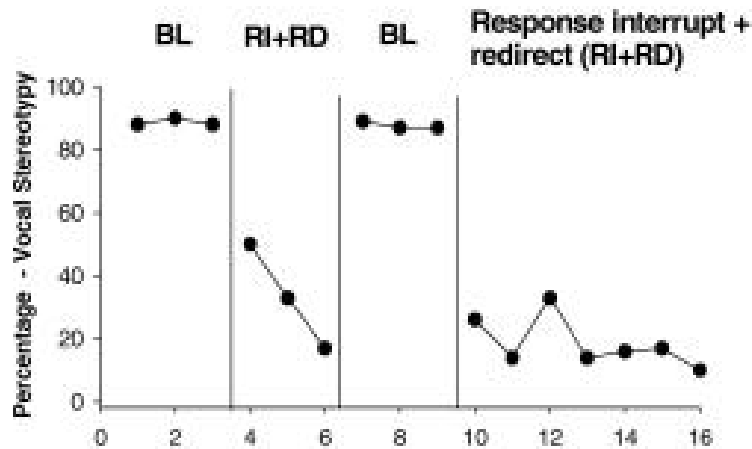
Ahearn, Clark, & MacDonald

J Appl Behav Anal. 2007 Summer; 40(2): 263–275

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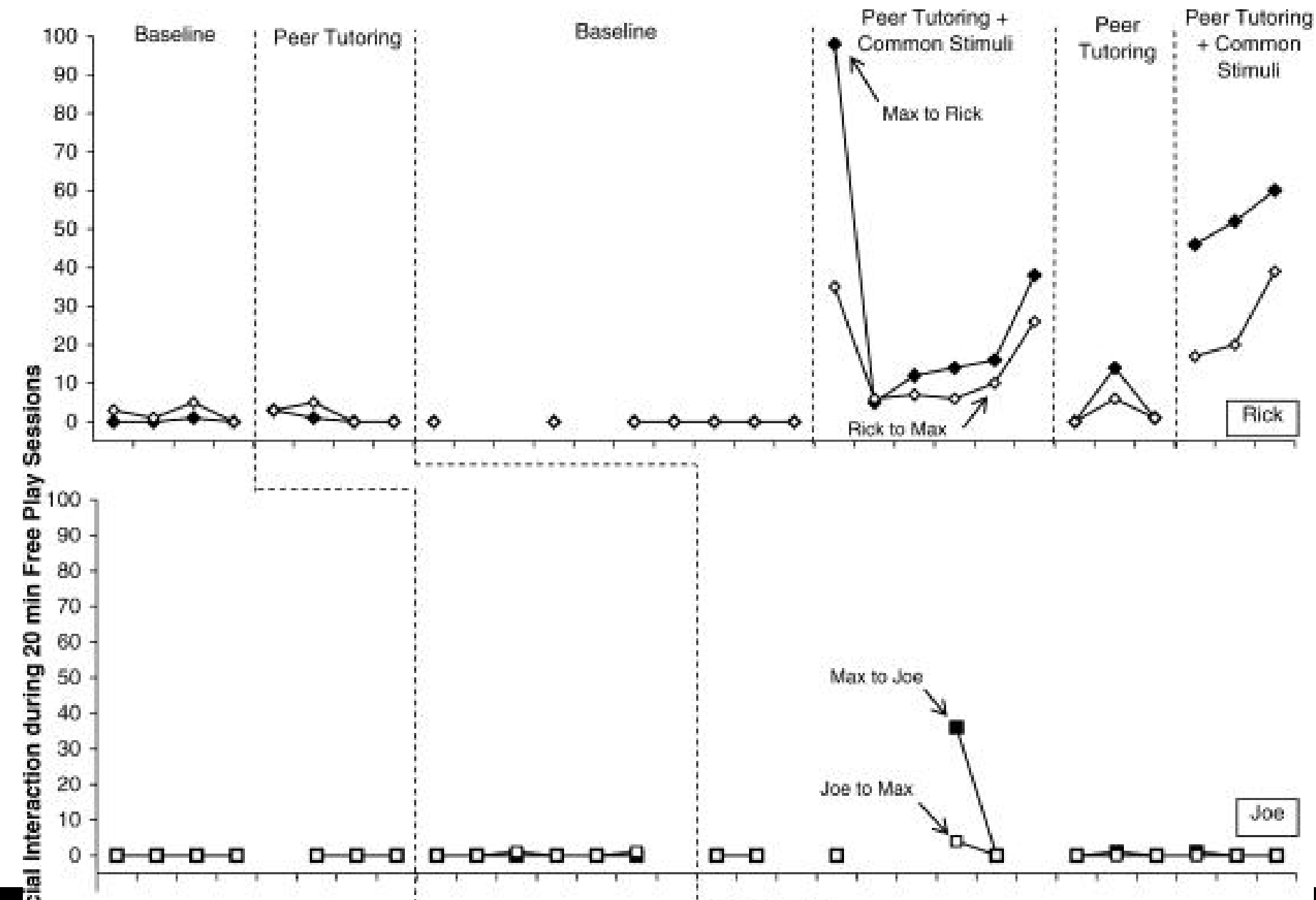
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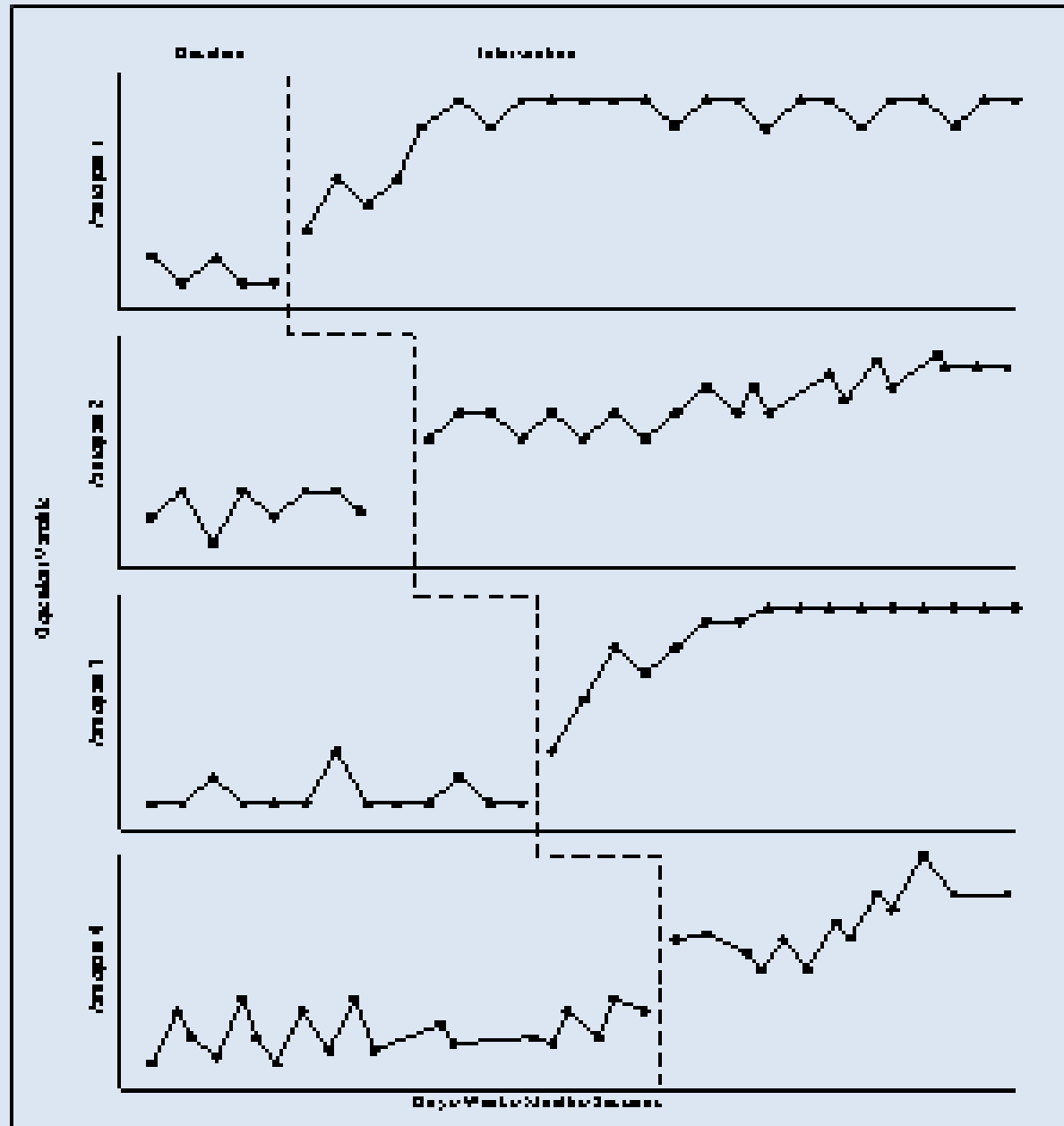
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# Multiple Baseline Design





Percentage of Plan Components Implemented as Written

